Host Master II Manual

Kantronics
RF Data Communications Specialists

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Installation Instructions

We strongly suggest you make a backup copy of your original disk.

To use the programs, we recommend you put the files for each program on a separate floppy disk, or in a different subdirectory on your hard disk. Below you will find the list of files associated with each program.

Host Master Files

HOST.EXE	Program file
HOST1.BIN	Used by Host Master
HOST2.BIN	Used by Host Master
HOSTSET.EXE	Setup program

When Hostset is ran it creates a HOST.CFG file. The manual also describes other files that may be created for use within Host Master.

To use the DOS shell feature of Host Master a copy of the DOS command processor COMMAND.COM must be available in the current directory or via the DOS path.

Pacterm Files

PACTERM.COM	Program file
PACTERM.ASM	Assembly language file for above
LOAD.COM	Translates hex files to program files
LOAD.ASM	Assembly language file for above
UNLOAD.COM	Translates program files to hex files
UNLOAD.ASM	Assembly language file for above

Pacterm is a simple terminal program with on-line help. It has split screens for transmit and receive data. It also allows you to send and receive files. Pacterm provides direct control of the RTS line from the computer keyboard.

Computer to TNC Cable

The following pins must be wired.

TXD	Transmit Data
RXD	Receive Data
SG	Signal Ground
RTS	Request To Send
CTS	Clear To Send

See your TNC manual for complete instructions and for wiring the TNC to the radio.

	TNC (DCE)		Prewired		RS-232 Computer (DTE)	
Pin Name	DB-25 Pin No.	DB-9 Pin No.	Cable Color	direction	DB-25	DB-9
TXD	2	3	white	<===	2	3
RXD	3	2	brown	===>	3	2
SG	7/1	5	black	====	7/1	5
RTS	4	7	green	<===	4	7
CTS	5	8	red	===>	5	8

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Computer to TNC Cable

Host Master II Manual

Introduction

Welcome to Host Master II. You now own the most sophisticated terminal program and TNC combination available anywhere. The Host Master program is designed to help you get the most out of your Kantronics TNC and makes use of its many exciting features simple. Management of simultaneous multiple connections is now easy and fun. Best of all, with Host Master II and a KAM, you can now operate VHF packet and HF CW, RTTY, ASCII, or AMTOR at the same time!

Requirements

To use this program you must have the following equipment:

A Kantronics Data Engine version 1.03 or later, a KAM/KPC TNC version 3.06 or later (All Mode support requires KAM version 4.0 or later).

An IBM™ or compatible computer with:
- MS DOS™ version 2.1 or later
- 512K or more memory
- A floppy disk drive
- A monochrome or color display
- A serial port

Optional Equipment

- Hard disk drive
- Microsoft™ compatible mouse
- Printer

Installation

This manual assumes a reasonable familiarity with DOS, the ability to copy a floppy disk, and the ability to copy files from a floppy disk to a hard drive. Consult your DOS or computer manual for assistance with these things.

Making A Backup Copy

The files and the disk are not copy protected. You are authorized to make a backup of the floppy disk(s), or to copy the program to a hard disk drive for your own personal use. We strongly suggest that you backup your disk and keep the original in a safe place.

Only the individual who purchased the program, or members of his or her immediate family living in the same household, are authorized to use it.

If you sell your original disk and manual to another person, you must destroy all other copies which you have made for your own use or the use of other members of your family. Under no circumstances may you sell a copy of this program which is not the original disk and manual purchased from Kantronics.

Floppy Disk Only System

The program is ready to run on the distribution disk, or from your backup copy. We strongly recommend you do *not* use your distribution disk.

With a Hard Disk

To install the program to a hard disk, first create a directory to hold the Host Master files using the make directory command. For example, if your hard disk is drive C and you want the files stored in a subdirectory named "HOSTMSTR" then you would type:

```
MD C:\HOSTMSTR
```

Next simply copy the Host Master files on the distribution disk to the subdirectory with the DOS "COPY" command. If your original floppy is in drive A, then for the example directory shown above the command would be:

```
COPY A:H*.* C:\HOSTMSTR
```

Config.Sys

Your CONFIG.SYS file should contain the following lines:

```
buffers=20
files=20
```

These commands are needed so Host Master can have several files open at the same time. The CONFIG.SYS file can be created with any program that will save an ASCII (text only, non-document) file. It can also be created from the DOS prompt by typing:

```
cd \
copy con config.sys
buffers=20
files=20
Ctrl-Z (hold the control key down while pressing the Z key)
```

The CONFIG.SYS file must be present in the root directory of your boot disk when turning on your computer. If you have just created this file, re-boot your computer before running Hostset or Host Master.

Set Up (Hostset Program)

At least once before you use Host Master, you must run the Hostset program to set your configuration and preferences. The Hostset program creates the configuration file HOST.CFG that is used by Host Master at startup.

To Start Hostset

1. Make sure your DOS prompt corresponds to the drive that the program diskette is in, e.g., "A:>" for drive A or "B:>" for drive B. If it does not, change the prompt by typing "A:" or "B:" (without the quotes) and pressing ENTER.

2. If you have stored the files in a subdirectory, use the DOS Change Directory (Chdir or CD) command to change to the subdirectory where the program files are located.

3. Type "HOSTSET" and press enter to start the program.

Hostset starts with a screen of information. When you have read the screen, press Enter or Space to advance to the next screen.

Callsign

Answer the question about your primary callsign. What you enter here is used in the CALL-EXCHANGE feature of Host Master. If you enter "KEØSM Jim in Rochester MN", then whenever you activate the call exchange feature, Host Master will send "WK5M DE KEØSM Jim in Rochester MN" (In place of WK5M of course will be the call of the station with which you are in QSO). If you only want your call sent then only enter your call. If you want your name or QTH sent, then enter that too. You may enter up to 25 characters.

Path to Buffers

The program will next request a DOS "path" to where the files containing your buffer messages will be stored. Host Master has extensive transmit buffer support, including ten separate buffers for each mode of operation. Since this requires many files it is sometimes easier to put them in a separate directory. If you designate a directory for them, remember to use the DOS "Make Directory" command to create it before you run Host Master, or you will get an error message. To continue with the example used for the Host Master directory you might answer this question:

C:\HOSTMSTR\BUFFERS\

After running Hostset you should immediately create the new BUFFERS subdirectory under the HOSTMSTR subdirectory.

You may also simply designate an alternate disk drive rather than a complete path. If you store your program files on drive A or C you could enter: "B:\" if you want to read your buffer files from the root directory of floppy drive B. Using this method, several family members could each have their own diskette with their personalized buffer messages on it.

If you enter nothing, the program will look for buffer files in the current directory which should be where the program files are stored.

Serial Link Speed

Next you will be requested to select the speed. This speed refers to the baud rate between the computer and the TNC and corresponds to the ABAUD command in the TNC. Use the up and down arrow keys to move the diamond to the desired selection or point and click the desired selection with a mouse, then press Enter.

The default is 4800. You should use the highest rate your computer supports reliably, this will depend on several things. Use the following table as a guide for suggested starting points. (Although there is a technical distinction between bits per second and baud, this manual will use them interchangeably for simplicity.)

Clock speed	Processor	Baud
4.77 MHz	8088	2400
8.0 MHz	8088	4800
12.0 MHz	80286	9600
16.0 MHz	80386	9600

The other common RS-232 parameters such as stop bits and parity are not changeable. Host Master will set the link for 8 data bits, 1 stop bit, no parity. This is the default setting for your TNC and you should not change it.

Serial Port

Next you will be requested to select the serial port for your TNC to Computer link. This is the physical port on the computer where you have connected the cable from the TNC. Ports 1-4 are supported. Ports 3 and 4 must be supported by your computer's BIOS in order to work properly. Host Master supports Port 3 using address 03E8 and interrupt 4, Port 4 uses address 02E8 and interrupt 3.

TNC Ports

You are asked how many TNC ports you will be using. This affects how much memory Host Master uses. If you have a dual-port TNC and wish to use both ports, select <2> by using the Tab key to highlight <2>, then press Return (or click with the mouse). Otherwise just press return to select 1 port.

Screen Lines

Next tell Hostset how many lines you want displayed on the screen at once. Because of the large amount of information Host Master is capable of displaying, you will want to make the best use of an EGA or a VGA display adapter if you have one.

All text and graphics adapters are capable of 25 lines. If you have an EGA you may use 25 or 43 lines, and for a VGA you may use 25, 43 or 50 lines.

Message Delay

From time to time Host Master displays pop-up messages to inform you of program events or the link status. These messages will automatically disappear from the screen after the amount of time you specify here.

NOTE: The following questions are not applicable and will not appear if you have selected a 1 port TNC.

All Mode or Packet Only

Host Master II has the capability, for KAM owners, to operate HF modes such as AMTOR, ASCII, RTTY and CW, while simultaneously operating multiple packet connections on the VHF port. If you do not have a KAM, or if you never operate the HF modes, Host Master will configure its display differently than if you do. Select the most appropriate choice.

HF Shift and Speed

These questions set the default values that Host Master will use when first started. Simply press enter to accept the default values. You can also change these settings from within Host Master. Refer to your KAM manual for more information about the different HF modes.

Hostset will now create the configuration file "HOST.CFG" and exit.

Advanced Set-Up

Host Master also supports Automatic Startup and Ending files, Secondary Configuration files, and Character Translations. These advanced features are described towards the end of this manual.

Program Operation

The Copy Protection

The program files themselves are not copy protected but, as much as we all hate it, some form of copy protection has proven to be necessary. We hope the method we have used is an acceptable compromise.

When you send in your registration card to Kantronics with your serial number on it, you will be sent a post card with a special registration number uniquely linked to your serial number. Please write that number here for future reference when you receive it:

My Registration Number is:

_____

When you first start Host Master, you will be asked for this number. After you enter it, this number will be stored in one of the program files and checked for validity each time you run the program. If the number is valid you will not be asked for further verification.

Until you get your registration number you must instead type in the specific word from this manual that is asked for. When Host Master asks for a certain word of a paragraph, ignore the headings and begin counting with the body of the paragraph. Each character or group of characters surrounded by spaces is considered a "word". For example the 4th word of "Drive A: is used to" would be the word "used".

Of course we realize that you will be inconvenienced slightly until you get your registration number, and we apologize for this. But from then on the copy protection is invisible, and the program is permanently and uniquely registered to you by your serial number.

Once you are registered you are also eligible for reduced cost upgrades to future versions.

Starting Host Master

From a Floppy Drive

To start Host Master, make sure your DOS prompt corresponds to the drive which the program diskette is in (i.e. usually "A:>" for drive A or "B:>" for drive B). If it does not, change the prompt by typing "A:" or "B:" (without the quotes) and pressing ENTER. Then type "Host" and press ENTER.

From a Hard Disk

To start Host Master use the DOS Change Directory command "CD" to change to the subdirectory where the program files are located, then type "Host" and press ENTER to start.

The opening screen will be displayed. You can press any key while the curtain is opening to bypass the screen. Once the curtain is fully open it is too late to bypass the opening screen.

Answer the copy protection question if you have not yet entered your registration number. Host Master will attempt to establish a link with the TNC and will display several messages to that effect.

The TNC will be in AUTOBAUD mode if you have just turned it on for the very first time, or if you turn it off and then on again without having ever first PERMed a baud rate. Follow the prompts on the screen as the link is established. If you get a message about a link problem, see the troubleshooting section.

The Main Screen

You should now see the main Host Master screen. Your menu of options is displayed at the top with the shortcut keys highlighted.

Directly beneath that, initially in green if you have a color monitor, is the Monitor window. Here, any packets that are selected for monitoring will be displayed. This display will work even if you are connected, if Monmode is set to Connected in the Data Engine (MCON ON in the KAM and KPC-series TNCs). The Monitor window has its own separate scrollback buffer.

Next is the Receive Data window. Any packets received from a station which you are connected to will appear here. If you are in the Command channel, (channel 0) you will see responses to the commands you type. Each Receive window has its own scrollback buffer.

ALL MODE Only: The next line is the Transmit Echo line. While you are transmitting in any of the non-packet HF modes, what you type will be echoed back in a marquee style display as the KAM is transmitting it (Be sure XMITecho is turned on in the KAM). This lets you know how far ahead you are typing and allows you to monitor the quality of the link in AMTOR.

ALL MODE Only: The next screen area is the HF Receive window. Information from another station using CW, RTTY, ASCII, or AMTOR will be displayed here. This window has its own scrollback buffer.

Moving downward the next line is the New-Data Bar if this feature is selected (more about that later).

The next two lines are the Status Lines. Information about the link state and keyboard mode will be displayed here.

Last is the Transmit Data window. It is here that what you type will be displayed before it is sent to the TNC.

Keyboard Modes

In Packet mode what you type is not sent until you press enter or until a full packet as defined by PACLEN has been typed. You can use the backspace key to erase or edit a full line of your message before it is sent.

In HF mode what you type is sent either immediately after each character or after each word, depending on the setting of the HF Whole Word option. It is not possible to backspace unless the "HF Whole Word" option is on, and then only one word may be edited.

Help

While using Host Master, you may press F10 to display a help screen showing the purpose of all function keys, or select Help from the menu.

Using the Menus

To make a menu selection, either click on it with a mouse, or press and release the ALT key then press the highlighted letter. You may also hold the ALT key while pressing the highlighted letter. Once in the menu you can move around with the cursor keys to make your selection, press the highlighted key, or you can use the mouse to select directly.

Sometimes a dialog box will be displayed with your choices at the bottom like this:

<Cont> <Quit>

Use the TAB key to move between these selections, and press ENTER to select.

The Host Mode

The Host mode is a feature of the Kantronics TNCs which allows a program like Host Master to be much more effective. To manage dozens of simultaneous connections, Host Master needs a great deal of information about the state of the TNC and a great deal of control over it. To accomplish this Host Master becomes the interface between you and the TNC.

Channels

Host Master uses the idea of "Channels" to permit multiple simultaneous connections. There is a channel for each possible user you have set with MAXUSERS. They are numbered 1 through 52, one for each of the 26 possible connections on each port. Channel 0 is called the Command channel. More about that later.

In many ways each Channel is almost an independent terminal program. If you are connected on a particular channel it will receive data whether you are viewing that channel or not and will notify you of the arrival of new data. Each channel has its own independent scrollback buffer. You may save data from each channel independently to its own disk file while you are on other channels, restricted only by the DOS limitation on open files (see previous discussion about config.sys). One channel's data may also be selected for printing.

When you start Host Master, all channels display a "Disconnected - Send Unproto Port 1" message. This means that anything you type will be sent out as an unconnected packet from the port shown (you may change the unproto port by pressing F7). A common mistake when first using Host Master is to attempt to connect by typing "C KEØSM" at the keyboard instead of using the menu. This will result in an unproto packet being transmitted.

The Command Channel

When Host Master first starts you are on the COMMAND CHANNEL. The Command channel is a special channel that is used to communicate directly with the TNC even if you are connected on other channels. You use this channel for commands, such as what kind of packets to monitor, setting your BBS and KA-Node callsign, etc. If you attempt to make a connection while on the Command channel, you will be advised to change to a free channel and try again.

Packet Modes

Changing Channels

Use the Page-Up and Page-Down keys to step through the channels. At the highest channel you will skip back to the Command channel. The first Status Line indicates what Channel you are on. The F4 function key allows you to move directly to a particular channel. Pressing Shift-F4 or the right mouse button will cause a pop-up window display of all available channels in the program, with a list of stations connected on each. Select the station you wish by using the cursor keys or mouse, then press Enter to immediately switch you to that channel.

Making A Connection

First select an unused channel with Page-Up and Page-Down. Then press F1 or F2 to begin the connect procedure on port 1 or port 2. You may also use the mouse or the menu keys to select 1 or 2 from the menu bar. The port 2 selection will not be available if you have configured for a 1 port TNC (or if you are in an HF mode on port 2 of your KAM).

You must use the menu to initially make connection to another station or node. The first three menu selections, "1", "2", and "Disc" are for making and ending connections. The function keys F1, F2 and F3 correspond to these same choices.

Enter only the callsign of the station you want to connect to in the input box. Do NOT put a "C" for connect in front of it. Host Master will tell the TNC that this is a connect command. You can enter extended callsigns or use VIA to digipeat if necessary.

If you are connecting to a distant station via KA-Nodes or other type nodes, use the menu only for the original connection. Once connected to any node you must type the full commands at the keyboard which that particular node expects. The menu is used only for the original connect from Host Master.

During the connection, the status line for that channel will change to reflect a connect request in progress. You will be notified with a pop up window when you are connected. A tone will also sound if Connect Alarm is turned on.

Once You Are Connected

You are now connected to another station and everything you type will be transmitted. If the TNC is set to monitor while connected, you

will see monitored packets in the top window and the responses from the station you are connected to in the center window. You may also capture the data from this station to disk by pressing F5, or by selecting "Capture to File" from the File/Edit menu. To end capture, simply press F5 again. If you want data from this station to be printed on your printer, press F6 or select "Print this channel" from the Term menu.

The TNC is defaulted to NOT monitor while connected. To change this you issue commands to the TNC by using the Host Master Command channel. (Pressing ESC will get you to the Command channel.) For the KAM and KPC TNCs set MCON ON. For the Data Engine set MONMODE CONNECTED. The Monitor command in your TNC manual will refer you to other commands that effect which packets you will monitor.

Multiple Connections

Just because you are connected on a particular channel does not mean you have to stay there! You can press the Page-Up or Page-Down keys to change to another channel, and connect to another station. If new data arrives while you are not on a channel, the Status Bar will indicate the fact with a "DATA Ch - 5" or similar message. Plus, if you have the New-Data Bar turned on, a number will appear indicating that a channel has new data since the last time you looked at it. The small reminder on the second status line will be erased when you change channels, but the one in the New-Data Bar will remain until you have actually selected that particular channel for viewing.

Disconnecting

When you are ready to end your QSO, go to the channel you want to disconnect and select the "Disc" menu or press F3. You will be prompted to ensure you really want to disconnect that channel and then will get progress messages as the disconnect proceeds.

If you try to exit the program before all channels are disconnected you will be advised of that fact and offered the option to go ahead or to return to the program.

NOTE: If you do go ahead and end the program the TNC will still be connected. Since a RESET command must be sent to exit Host mode, and RESET is illegal while connected, the TNC will be left in Host mode and will not be accessible with an ordinary terminal program. To regain control of the TNC, turn it off then on to cancel remaining connections, then run Host Master again. Host Master can regain control of the TNC even if it was left in Host mode. (With the KAM version 4.0 all existing connections will be terminated and the TNC will be returned to Terminal mode.)

When Someone Connects To You

If someone connects to you, Host Master will display a pop-up window indicating that a particular station has connected. That station will be assigned automatically to an unused channel. Also a tone will sound if "Connect Alarm" is turned on.

HF Operation

(KAM Owners Only)

Details of the various HF operating modes are discussed at length in the KAM manual and will not be reviewed here. Only Host Master functions will be covered in this manual.

If you have used Hostset to configure for 2 ports and ALL MODE operation, you can use Host Master and your KAM for HF non-packet operations on port 2 while port 1 is in use for packet.

To begin HF operations, select the "2" menu choice and select the mode you want to operate. CW, RTTY and ASCII modes are similar in that, generally speaking, one station transmits continuously for a short period, then switches to receive and the other station then transmits. This is different than AMTOR which will be covered in another section. Let's assume you selected RTTY.

After you select a mode of operation the second status line will change to show the mode, speed, and shift if applicable. Also the indicator will show "Keyb:HFC" for HF character mode or "Keyb:HFW" for HF word mode.

Port 2 of the KAM is now in whatever mode you selected and is unavailable for packet use. In our example, any RTTY signals received will now be displayed in the HF window. If you tune across a strong station calling CQ and want to call him, press Shift-F8 and type his callsign in the box. If you have a mouse you can simply click the left mouse button while the cursor is over any part of his callsign as displayed on the screen. His call will be saved into the "Call Xchg" memory.

When you are ready to transmit, press HOME and your transmitter will be keyed. If you have stored an "RYRYRYRY" message in a file

called BUFFER1.RTT you can press Ctrl-F1 to send it. Next you might press Shift-F10 to send his call followed by your call from the Call Xchg memory, like "WK5M DE KEØSM". Whatever you typed in as your callsign during Hostset, will be what is sent here. If you want to change it, use "Set Callsign" from the Config menu. (Using the "Set Callsign" from the Config menu will clear the "Call Xchg" memory. So you must use Shift-F8, or click on the other callsign, to enter the other call after changing the "Set Callsign".)

Since this is your initial call-up you may simply want to send his call and your call several times. Simply press Shift-F10 two or three times, then press the END key. The END key signals the KAM to go back to receive after the transmit buffer is empty. If you want to send something else, such as "Please K OM" or the like, type it before you press the END key.

In character mode, each character is sent to the KAM as it is typed and no editing is possible. In word mode, each character is stored until a space character is typed, then the entire word is sent to the KAM. A word can be edited by use of the backspace key until it is complete. Word or Character mode is selectable from the Term menu by toggling HF Whole Word on.

Whatever you type will now be sent to the KAM for transmission from port 2 in whatever mode you have selected. It will be stored in the KAM's transmit buffer until you press the HOME key to key the transmitter and start transmission. If you have XMitecho turned on you will see the characters scroll across the Xmit Echo line as they are transmitted.

If you want to dump the transmit buffer and erase all characters you have typed (or sent from a buffer by mistake) but which have not yet been transmitted, press DEL. You must confirm this choice, then the KAM buffer will be emptied, but the transmitter will remain keyed. To unkey press END.

If you want to stop transmitting immediately, with characters remaining in the transmit buffer, press Ctrl-END. The transmitter will unkey, but the unsent characters will remain in the buffer.

Simultaneous HF and Packet Operation

At any time during HF operations you can switch the keyboard back to packet mode by pressing the Right Arrow key. You could be copying a DX station on RTTY and notice a friend checking into the local VHF BBS via the Monitor window. If you decide to quickly send him a packet message about the DX frequency, etc., press the Right Arrow key to return the keyboard to packet, press F1 to request a connect on port 1, and have a normal packet QSO. You will continue to see the incoming RTTY data during your packet QSO, and when you are ready to answer the HF station simply press the Left Arrow key to switch the keyboard back to your HF mode. The keyboard mode you are in is indicated in the bottom Status Line on the right side of the screen.

AMTOR Operations

(KAM Owners Only)

AMTOR is more complex than the simple "you transmit then I transmit" method of the other HF modes, and requires slightly different commands. See the KAM manual for a detailed explanation of AMTOR operation.

LAMTOR

Because it is not possible to transmit in the LAMTOR (Listen Amtor) mode, the keyboard will stay in PACKET mode when you select this option. All monitored AMTOR data will be displayed in the HF window. When copying an ARQ Amtor station using Lamtor, you can press Ctrl-END to cause the KAM to re-sync to the Amtor station.

ARQ

The normal mode of operation for AMTOR is ARQ. When you select this option you will be unable to monitor stations already in an ARQ QSO such as you can with the LAMTOR option, but you will be able to transmit either FEC or ARQ.

To transmit data FEC (for example to call CQ), press the HOME key to go into transmit, then simply type at the keyboard or send a buffer. Press END when you are finished. If a station replies using FEC, the data will be displayed in the HF window. If a station replies ARQ with the selcal you have set in your KAM, you will go into ARQ mode as the Information Receiving Station (ARQ-IRS), the connect alarm will sound if turned on, and a linked message will be displayed.

To call a station ARQ press the F2 key and enter the selcal. The KAM will attempt to establish an ARQ link with the station. If successful a message will indicate that

you are linked and the connect alarm will sound if turned on. At this point you are the Information Sending Station (ARQ-ISS), and the status line will indicate that mode.

When you are ready to turn the link over to the other station press the INSERT key. The status bar will indicate the change from ARQ-ISS to ARQ-IRS. If you are the receiving station and press the INSERT key you will seize the link back.

To terminate an AMTOR link press F3.

To summarize, starting and ending an AMTOR qso is similar to a packet qso on port 2. You must be in ARQ mode then select F2 (same as packet connect on port 2) and enter the callsign. To end the AMTOR qso, press F3 (same as disconnect packet on port 2).

That's a quick overview of operations, the next section is a detailed description of each menu choice and function key command.

The Menu Selections

1 – Connect on Port 1 (F1)
2 – Connect on Port 2 (F2)

All TNCs:

These commands allow you to establish a connection with another station. Either select this from the menu or press F1 or F2. You will be presented with a box to enter the callsign of the station you want to connect to on your current channel. Do NOT enter the "Connect" command or the "C" abbreviation; Host Master directly tells the TNC what sort of command this is. For example, the following are all valid connect commands when typed into the dialogue box:

KEØSM
KEØSM-1
KEØSM-12 VIA WDØGNK
MNRST

but these are illegal:

C KEØSM-1
CONNECT WD9EAJ VIA WILSE

You can watch the progress of your connect in the status bar for your channel. First it will say "Connecting to: KEØSM" then, after connection is made, it will change to "Connected to: KEØSM". If the connection attempt is unsuccessful a message box will pop up with the status message from the TNC indicating "Retry Count Exceeded".

DATA ENGINE OWNERS NOTE: You must set the "PORT" TNC command to access your second port if you have the optional port 2 modem installed. To do this, decide if you want the default active I/O channel to be on port 1 or port 2 when not using the Host Master program, and then type the command "PORT 1" or "PORT 2" to the TNC from the Command channel. When you are using the Host Master program either command will work since Host Master will automatically route all packets to the correct port, but you still must issue one command or the other to turn on the second port.

KAM Only:

The menu labeled with the number 2 is used to switch the HF port of the KAM into the different modes of operation. Your choices are RTTY, ASCII, CW, FEC, LAMTOR, ARQ, and NAVTEX. One other choice is Return to Packet, which will exit the other modes and return your HF port to packet mode.

When ARQ mode is active, pressing F2 will cause you to be prompted for a selcal, then an ARQ link will be attempted to the station whose selcal was entered.

When you select FEC from this menu, you will be presented with a box asking you to enter a SELCAL. If you want to operate SELFEC (Selective FEC) enter the SELCAL of the station you are going to talk to. If you leave this box empty and just press return, you will enter normal FEC mode.

Disconnect (F3)

All TNCs:

The command to disconnect the current channel if it is connected.

KAM Only:

If in HF ARQ mode and you are linked to another station, break the link. Pressing F3 in any other mode will return the HF port to packet mode.

The Config Menu

Save Configuration

Many of the operational settings you choose from the menu can be saved in your configuration file. To save your current settings at any time, select this option. If you are operating from floppy disk you must have the disk containing the HOST.CFG file in the current

drive. If you are operating from a hard disk you must be in the directory where HOST.EXE and its files reside.

Serial Port Configuration

This menu selection allows you to set the BAUD and PORT number for your computer to TNC serial link. The other common RS-232 parameters such as stop bits and parity are not changeable. Host Master will set the link for 8 data bits, 1 stop bit, no parity. This is the default setting for your TNC and you should not change it.

First you will be presented with a selector box for the link speed in bauds. The default is 4800. You should use the highest rate your computer supports reliably, this will depend on several things. Use the following table as a guide for suggested starting points.

Clock speed	Processor	Baud
4.77 MHz	8088	2400
8.0 MHz	8088	4800
12.0 MHz	80286	9600
16.0 MHz	80386	9600

If you have trouble with lost characters see the troubleshooting section.

Next you will have to select the serial port for your TNC-Computer link. Ports 1-4 are supported. Ports 3 and 4 must be supported by your computer's BIOS in order to work properly.

If you change these parameters, you should select the Save Configuration option from the menu to preserve them.

Set Transmit Directory

This selection allows you to specify the DOS path to the default directory for ASCII files you may want to send to other stations. It should be in the form of a valid DOS path such as:

C:\HOSTMSTR\UPLOAD\

When you select the menu choice for transmitting an ASCII file, you will be asked for a filename. Whatever path is stored as your Transmit directory will already have been entered for you and you need only add the actual filename. The default directory can be overridden simply by backspacing to remove it when asked for the filename.

Set Receive Directory

This lets you specify the default directory for your ASCII captures (Capture to File). It will be pre-entered in the field when you are asked for the filename for an ASCII capture, but may be overridden by backspacing.

Set Buffer Directory

Host Master permits you to have separate transmit buffer files for each mode of operation. If used fully, this feature allows 40 or more buffer files to be created. To assist in the organization of your disk, they may be stored in a separate subdirectory which you specify here. Be sure this directory exists before using it. For details see the section on Transmit Buffer Files.

Set Maxusers

When Host Master starts, it needs to know the maximum number of channels that you might have active at once. This information is used to create the correct number of channels, allocate memory for scrollback buffers, and set the MAXUSERS command in the TNC. This menu selection gives you the ability to specify the number of users you want on port 1 and port 2 (if configured for two ports).

When the program is started for the first time, MAXUSERS is set to 5/5, which means 5 channels for port 1 and 5 channels for port 2. This provides for a total of 10 channels, which will be enough for most users and requires a modest amount of memory. (If you have selected only one port with the Hostset program, MAXUSERS will be set to 5 and only five channels are created by Host Master.)

Since the memory allocations for channels and buffers must be changed when this parameter is changed, you must restart the program to initiate the changes. You will be advised of this fact and given an opportunity to change your mind if you want.

Packet Length Port 1 and Port 2

These two menu selections let you set the maximum length of a packet for each port. The largest acceptable value is 256.

When connected: Packet length will be the value set or 79 (one screen line), whichever is smaller. Except when sending a file, then packet length will be what is set.

If you reduce the value to 20, you will notice that whenever you reach the 20th character while typing you are moved to the next line. This does not mean that a carriage-return has been transmitted, it is simply an indication for you that a packet has been packaged and sent. In all cases if you want a carriage-return sent, you must press ENTER at the end of your line.

When unconnected (unproto): Packet length will be 79 (one screen line). Except when sending a file, then packet length will be what is set.

Change to 1/2 Port TNC

You should set this parameter based on the type of TNC you will be using. Since Host Master may be used with a Data Engine, KAM, or KPC, it could be attached to a TNC having one or two radio ports. This is important for Host Master to know when it issues the MAXUSERS command, because the command is issued differently for a one- or two-port TNC. (See your TNC manual for a complete definition of the MAXUSERS command.) If a two-port TNC is issued the command MAXUSERS 5, Host Master will need 10 channels (5 for port 1 and 5 for port 2). However, if this same command is send to a one-port TNC, Host Master will only need 5 channels.

The menu item is a toggle, that is, each time you select it, it will change to the opposite state. If the 1 is highlighted it means that if you select it you will be changed to a 1 port configuration, so you are currently in a 2 port configuration. If the 2 is highlighted you will be changed to a 2 port configuration if you select it, so you are currently in a 1 port configuration.

It is recommended that you only change this parameter from the Hostset program.

Set Callsign

Host Master has a feature called Call Exchange which simplifies the exchange of callsigns between transmissions. Whenever you press the Shift-F10 key, the callsign of the station with which you are in QSO (if entered) and your callsign will be sent in the form: "WK5M DE KEØSM". If the call of the station with which you are in QSO has not been set, only your call will be sent as "DE KEØSM".

You initially set what will be sent as your callsign when you ran Hostset, but you can change it here. You have up to 25 characters to work with so you if you want your name or QTH sent at each exchange, enter them after your call. For example, an entry of "KEØSM JIM IN MINNESOTA" would result in "DE KEØSM JIM IN MINNESOTA" being sent whenever you pressed the Shift-F10 key. If the other station's call is set to WK5M, it would send "WK5M DE KEØSM JIM IN MINNESOTA" whenever the Shift-F10 key is pressed. Use the Shift-F8 key or the left mouse button to set the other station's call.

DOS Shell

If you make this selection you will be "shelled" out to DOS to permit you to use DOS commands directly. While you are shelled the Host Master program is still in memory but is suspended. This means that you may have very little memory to work with since Host Master, another copy of COMMAND.COM and whatever program you run while shelled are all sharing memory. Also, data may be accumulating in the TNC if you are monitoring packets or are connected while shelled.

NOTE: Be sure that a copy of the DOS command processor COMMAND.COM is available in the current directory or can be reached via current PATH settings before shelling to DOS. If you run Host Master from a floppy disk, make sure it is a bootable disk.

CAUTION: Do not use DOS commands to delete or modify Host Master's files while shelled. Deleting a file which is currently open for capturing data in Host Master will cause an error message at best, and corrupted files at worst when Host Master resumes. Use DOS commands with care while shelled. Do not attempt to run a communications program while shelled to DOS, as unpredictable results could occur.

To exit DOS and return to the Host Master enter "EXIT" at the DOS prompt.

The File/Edit Menu

Edit Xmit Buffers

Buffer files all begin with the word BUFFER, followed by a number from 1 to 10, then a mode extension (see section on transmit buffers). When you want to edit them select this menu item. The name "BUFFER" will be preloaded into the input box so that you only need to append a number and the extension. The filename you type here (i.e. BUFFER6.RTT) will be searched for in the subdirectory which you specified for your buffer files, so it is not

necessary for you to prepend the path. When you have entered a filename the file will be loaded and you will be placed into Host Master's sophisticated file editor. Some features are discussed at greater length below, and in the help screens.

Edit File

Host Master contains a small but very sophisticated text editor which you can use to prepare your transmit buffers (see above), to edit downloaded or monitored text, or any other text file. When you select this menu item you will be asked for a filename for the file to edit.

If you don't remember the filename simply press ENTER on the blank field and you will be asked for a directory wildcard mask with the default of "*.*". The "star dot star" means to show all the files in the current directory. See your DOS manual for more information about "wildcard" file specifications. You can change the path to a different one if you want. For example changing it to "C:\DOS*.*" might give you a listing of all files in your DOS subdirectory. When you press ENTER you will see a pick-list menu of the files which match your specifications. You can select the file to edit directly from this menu with the cursor control keys then press ENTER.

If you remember the filename, simply type it in and press ENTER. If the file is found you will be placed in the edit mode. If not, you will be asked if you want to create it or exit. Refer to the Editor section for details on how to use the editor. While you are editing, reception of incoming data is suspended and data is accumulating in the TNC's buffer. Press ESC when you are finished editing and you will be given the option to save the file, cancel the edit, or save under a new name.

Edit Scrollback

You can edit the Receive scrollback buffer for the channel you are on, or the received HF data (KAM only) by selecting this item. You can also edit it at any time by pressing the down arrow control key. If you press the up arrow key you will edit the Monitor window buffer. While you are editing, the processing of incoming data is suspended and data are accumulating in the TNC's memory. Press ESC when you are finished editing. If you have made changes, you will be asked if you want to save the buffer as a file.

Save Scrollback

You can save the Receive scrollback buffer for your current channel to a disk file with this selection. Enter the filename to save under when prompted. This is snapshot of the current contents of the scrollback buffer, and will not capture any new data into the file. If you are on the Command channel when you Save Scrollback, the current contents of the monitor scrollback buffer will be saved.

Print Scrollback

The entire contents of the current channel's Receive scrollback buffer will be sent to printer port 1 (LPT 1) when you select this.

Capture to File (F5)

You can capture incoming data on a particular channel to a file with this selection, or by pressing the F5 key. If the keyboard is in HF mode (KAM only) the HF data will be captured, otherwise the current packet channel will be captured.

You will be prompted for the name of the file to save. If you have entered a default Receive directory from the Config menu, the directory will already be typed for you. If the file you select already exists, you may choose to overwrite it, to append to it, or to cancel the save.

A capital "C" will appear in the status line of a channel that has Capture to File active. It will disappear when the file is closed.

To close the file, Press F5 or select Capture to File again.

The number of files you may have open at once is limited by the DOS FILES setting you have in your CONFIG.SYS file. If you expect to capture many channels simultaneously you should set your FILES setting correspondingly higher. A good setting is 20 or more.

If you capture Channel 0 (Command channel), all data from the Monitor window and the Command channel will be captured in that file.

Xmit ASCII File (Sh-5)

This option will prompt you for the name of an ASCII text file and will transmit it via the current channel. If the keyboard is in HF mode, the file will be sent out the HF port (KAM only). Packet length will be that set with PACLEN for that particular port. You cannot leave the channel while transmitting an ASCII file. You can also press Shift-F5 to transmit an ASCII file.

Term Menu

Most of these options are toggled on or off each time they are selected. When an option is active, it will be preceded by ».

Connect Alarm

When on, a tone will sound to alert you whenever a connection occurs on any packet channel, or a link is made on AMTOR (KAM only).

Word Wrap

When this option is on, data displayed in a receive window will start a new line between words after approximately 75 characters. This will prevent a word from being broken in the middle when a long line reaches the end of the screen in the middle of a word. This only applies to the Monitor and Receive windows. If your scrollback buffer looks strangely formatted, turn this option off.

Recv Data Bell

When this option is on, you will be alerted by a tone whenever new data is displayed in the packet Receive window. This tone is lower in frequency than the one sounded for the Mon Data Bell. The option is a toggle, select it once for on, again for off. The change takes place immediately.

Mon Data Bell

When selected this option causes a tone to be sounded whenever a monitored packet is displayed. This tone is higher in frequency than the one sounded for the Received Data Bell. The option is a toggle, select it once for on, again for off. The change takes place immediately.

Print This Channel (F6)

At any given time one channel or the HF data stream may be selected for printing. If you select this menu option or press F6, your current channel will be designated for printing if the keyboard is in packet mode, or the HF received data if the keyboard is in HF mode (KAM only). To turn it off select it or press F6 again. A capital "P" will appear in the status line of the channel which is currently being printed.

This is almost like having a second video screen available. Keep in mind that if your printer does not have a buffer, the program will be slowed down to the speed of your printer. If a large amount of text must be printed the performance of the other channels could be reduced.

Clock Display

Host Master can provide a continuously running clock in the upper right hand corner of the screen. To turn on the clock select this option and save your configuration before exiting. The next time you start Host Master the clock will be active. The default condition is off because a real-time clock uses a large amount of processor interrupt time, and may cause lost characters if used with a slow processor and a high speed serial link. In general, if you wish to use or exceed the baud suggested in the serial port configuration section, don't turn on the clock display. The time is set from the internal DOS clock.

Size Scrollback

The size of all of the scrollback buffers is set with this option. The default size is 100 lines. Remember, the number of lines you set here will be multiplied by the number of channels required for your MAXUSERS setting, and can end up requiring a large amount of memory. If you set this size too high and run out of memory, Host Master will advise you, then will reduce the setting back to 100 lines. You can either run with MAXUSERS set to a lower value or your scrollback size reduced instead. Once set, this value will be saved for future sessions when you save your configuration.

Xmit Translate

Determines if characters you type or send from a buffer will be subjected to character translations. This menu selection is a toggle, select it once to turn it on, again to turn it off. The change takes effect immediately. See the Advanced Setup section for more information.

Recv Translate

Determines if characters received over the air will be subjected to character translations. This menu selection is a toggle, select it once to turn it on, again to turn it off. The change takes effect immediately. See the Advanced Setup section for more information.

Cmds Translate

Determines if characters sent to the TNC on the Command channel will be subjected to character translations as set for transmit. This menu selection is a toggle, select it once to

turn it on, again to turn it off. The change takes effect immediately. See the Advanced Setup section for more information.

HF Whole Words (KAM only)

If active, when the keyboard is in HF mode characters will only be sent after a space character is typed, i.e., after a whole word. Until that time the backspace can be used to correct typing errors up to the previous space. If inactive, each HF character is sent immediately and no editing is possible.

Windows Menu

Xmit Window Size

The Transmit window is at the very bottom of the screen and is where what you type for transmission appears. A small number of lines is usually sufficient here since only what you are currently typing and the line you just finished typing are saved when you move from channel to channel. Simply enter the number of lines you want. The change will go into effect immediately, but all displayed data will be cleared.

Xmit Color

You can select the color for the Transmit Data window from the chart displayed. Text in the old color and new color will be displayed to show you what it will look like and you can either keep or reject your new color choice. Color changes are saved when you save your configuration

Status Color

This selects the color of the status bars.

Receive Color

This selects the color of the packet Receive windows.

Editor Text Color

You can select the color of the text editor here.

Mon Window Size

Enter a number of lines you want for the Monitor window. If set to 0 there will be no Monitor window. However, the Monitor scrollback still contains the monitored data. Packets that qualify under your TNC's monitoring settings will be displayed in this window. To display monitored packets into this window you must have the MONITOR command set to ON. If you also want to see monitored packets while you are connected, set MONMODE CONNECTED in the Data Engine (MCON ON in the KAM and KPC-series TNCs).

Mon Packet Color

Select this option to choose the color of your Monitor window.

HF Window Size (KAM only)

Select the number of lines for received HF data. If you have not selected to view the New-Data bar, the HF window will be one line larger than you specify.

HF Window Color (KAM only)

Select this option to choose the color of your HF Received window.

Xmit Echo Color (KAM only)

Select this option to choose the color of your Xmit Echo data.

New-Data Bar

The New-Data bar is a feature that allows you to keep track of when data has come in on another channel and you have not yet viewed it. When it is turned on, a third status line will appear with numbers spaced evenly along it in multiples of 10 like this.

10+ 20+ 30+ 40+

The numbers represent all the possible channels that could be active. If a number appears between the numbers with pluses it indicates that unviewed data exists for that channel. Use F4, the Page-Up Page-Down keys or the right mouse button to move to a channel where unviewed data is indicated. For example, data on channels 5, 12, 20 and 39 would look like this:

5 10+ 2 20+0 30+ 9 40+

This indicates unviewed data on channel 5, channel 10+2 or 12, channel 20+0 or 20 and channel 30+9 or 39. When you view one of those channels the corresponding number will disappear from the New-Data Bar

Help Menu

Help

When this option is selected, a help screen will appear showing the purpose of all function keys.

Exit Menu

Exit

Select this option to exit the program. If you have made changes to some of your configuration options, but have not yet saved it, you will be reminded and asked if you want to.

Version Number

The version number of your program is displayed under the EXIT option. If you select the version number a copyright notice screen will appear.

The Function Keys

F1: Connect

Packet Connect on Port 1

Shift-F1: Change HF mode speed

If you are in an HF mode such as RTTY or CW, pressing the Shift-F1 key will cause the speed to increase by one increment. When the maximum speed is reached you will loop back around to the lowest speed again.

F2: Connect

Packet Mode: Packet Connect on Port 2

HF ARQ Mode: Initiate an AMTOR link (KAM only)

Shift-F2: HF mode shift select

(KAM, HF modes only)

When in HF modes such as RTTY, pressing Shift-F2 will cause the modem shift to change to the next higher value. When the highest value is reached you will loop back around to the lowest shift.

In CW mode Shift-F2 allows you to set the CW Bandwidth.

F3: Disconnect

Packet Mode: Disconnect current channel

HF ARQ Mode: Break current AMTOR link (KAM only).

Other HF modes: Return to Packet

Shift-F3: HF mode Invert

(KAM, HF modes only)

When HF modes are active it can be useful to invert the received mark/space tones. Shift-F3 will toggle between inverted and non-inverted modes. When invert is active a letter "I" will appear near the mode display on the second status line.

F4: Goto Channel

When you press F4 you will be prompted for a channel number. When you enter it you will be immediately moved to that channel without having to step to it via the PgUp or PgDn keys. The Command channel is Channel 0.

Shift-F4: Display menu of all channels and connections.

F5: Capture data to an ASCII file

If the current channel is 0 then all monitored data and command responses will be captured. If a packet channel is active and the keyboard is in packet mode (KAM only) then the current packet channel will be captured. If the keyboard is in HF mode, HF data will be captured.

Shift-F5: Send an ASCII file

If the keyboard is active for packet, send it on the current packet channel. If the keyboard is active for an HF mode (KAM only) then send as HF data. You cannot change channels or modes until the file is finished being transmitted.

F6: Print This Channel

If the keyboard is in packet mode, print this packet channel. If the keyboard is in HF mode (KAM only) then print all received HF data.

F7: Toggle Unproto Port

When you first move onto a channel which is not connected to someone, whatever you type in the transmit window will be sent out UNPROTO (unconnected). Pressing F7 will cause the port which appears in the status line as the destination for unproto packets to toggle to the other port. If port 2 is currently in an HF mode (KAM only) you will not be permitted to transmit unproto from that port. See your TNC manual under the UNPROTO command for more information.

Shift-F7: WRU

(KAM, AMTOR mode only)

AMTOR mode supports an automatic "who are you" (WRU) inquiry and response. If you are connected to another station via AMTOR, and press Shift-F7, the WRU inquiry will be sent.

If the other station is capable of responding to a WRU request, it will transmit any information which the operator has programmed in about the station, operator, QTH, etc.

F8: Clear Scrollback Buffer

This will simply clear the scrollback buffer for the current channel of all data.

Shift-F8: Enter other station callsign

The callsign exchange feature of Host Master (Shift-F10) must know the callsign of the station with which you are in QSO in order to send it. Use this function to enter the other station's callsign. If you have a mouse you can quickly enter the other station's callsign by simply clicking the left mouse button while the mouse cursor is on any part of the callsign displayed on the screen.

F9: Replay last text typed

When you press F9, the last line you typed will be replayed to the screen. If necessary, you can edit the line. Then press return to send it to the TNC. Each channel remembers its last line, e.g., pressing F9 while on channel 1 will replay the last line typed on channel 1. If you change to channel 2 and press F9, the last line typed on channel 2 will be replayed. This function does not work in HF keyboard mode.

Shift-F9: Send Date and Time

(HF mode only)

Press Shift-F9 to cause the current date and time to be transmitted in the format 05:21:42 on 03/31/91. This function only works in HF keyboard mode.

F10: Help

This will call up a reminder screen showing the function keys and their commands.

Shift-F10: Call Exchange

The other station's callsign and your own will be transmitted in the following format: WK5M DE KEØSM. Your call will be whatever you entered using Hostset or with the Config menu. If you have not entered the other station's callsign using Shift-F8 or the mouse, only the "DE" a space and your call will be sent.

Ctrl-F1 to Ctrl-F10: Transmit Buffer Files

Holding the Ctrl key and pressing a function key causes the file associated with that key and mode to be transmitted on the current channel. This is useful for the station information or "Brag Tape", or any other information which must routinely be sent. See the Advanced Setup section later in this manual for more information about buffer files.

ESC: Return to Command Channel

The escape key will take you instantly back to the Command channel from any other channel.

Cursor movement keys

Up Arrow and Down Arrow

Pressing the Up Arrow or Down Arrow cursor keys will put you into the View/Edit Scrollback Buffer mode. Up Arrow will edit the Monitor window scrollback buffer. Down Arrow will edit either the packet scrollback if the keyboard is in packet mode, or the HF data scrollback if the keyboard is in HF mode (KAM only). Press ESC to quit editing.

Left Arrow and Right Arrow

If you have a KAM and are set up for All Mode operation, pressing the Left Arrow or Right Arrow cursor keys will change the keyboard mode. Pressing the Left Arrow key will activate HF keyboard mode, pressing the Right Arrow key will put you into the packet keyboard mode.

PgUp (Page-Up)

Pressing the PgUp key will change the Packet Receive window to the next higher numbered channel. The channels are numbered starting with 0 being the Command channel. When on the highest channel, pressing PgUp will switch you back to the Command channel. This has no effect on your Transmit window, allowing you to change your packet receive channel while talking to another station on HF.

PgDn (Page-Down)

Pressing the PgDn key will change the Packet Receive window to the next lower numbered channel. The channels are numbered starting with 0 being the Command channel. When on the Command channel, pressing PgDn will switch you to the highest numbered channel

available. This has no effect on your Transmit window, allowing you to change your packet receive channel while talking to another station on HF.

HOME

When using the KAM for non-packet modes on HF, pressing HOME will cause the KAM to key the transmitter and begin sending data. In AMTOR mode, if you are not linked, pressing Home will cause the KAM to start transmitting FEC Amtor. If you are linked to another station, you do not use this key.

END

When using the KAM for non-packet modes on HF, pressing the END key will cause the KAM to return to receive mode after all of the data in the KAM's transmit buffer has been transmitted. If you are linked to another station in ARQ Amtor mode, you do not use this key.

Ctrl-END

In the KAM HF non-packet modes, pressing Ctrl-END will return the KAM to receive immediately, leaving any unsent data in the KAM's transmit buffer. (If you press Home again, this data will be sent.)

When using the LAMTOR mode of your KAM, pressing Ctrl-END will cause the KAM to attempt to re-sync to the Amtor station you are copying.

DEL (Delete)

When operating in a non-packet mode on HF with the KAM, pressing DEL will erase the contents of the KAM's transmit buffer. You will be presented with a pop-up window asking you to confirm that you want to do this. This can be useful if you accidentally send the wrong transmit buffer, or the wrong file from disk.

INS (Insert)

The INS key is used only in ARQ (Mode A) Amtor. When you are the ISS station, pressing this key will send a change-over signal to the other station after all data in the KAM's buffer has been sent. If you are the IRS, pressing this key will cause you to seize the link from the other station, forcing the other station to become IRS and you will become ISS.

The Editor

The editor supplied with Host Master has many features including on-line help, full mouse support, horizontal and vertical scrolling as well as row and column block operation support for insert, delete and copy.

Editing Keys

All of the standard editing keys are supported.

Home and End move to the beginning and end of the line.

PgUp and PgDn keys scroll the screen by pages.

Ctrl-PgUp and Ctrl-PgDn keys move to the first and last lines respectively.

Ctrl-Home and Ctrl-End keys move the cursor to the top or bottom of the edit window.

Ctrl-Left Arrow and Ctrl-Right Arrow move the cursor by words.

Ctrl-Y deletes the current line.

Block Operations

To mark a block, put the cursor where you want to start and press Shift-Right-Arrow. The block will be marked by highlighted text as the cursor travels to the right. If Shift and Ctrl are held down blocks may be marked by whole words. You can mark entire lines at a time by pressing the Shift-Down-Arrow key.

To delete a marked block press the DEL key.

To insert a block, press the Shift-INS key.

For users with a mouse, press and hold the left mouse button to mark text. If you first move the mouse down, the text will be marked in sentence mode. If you move across first, then down, text will be marked in column mode.

Help is available within the editor by pressing the F1 key. Within the Help window use the up or down arrow keys to view the other pages.

Although the editor is very advanced in features, it is designed for small files. If you try to load a file which is too big for your free memory, you will get a message indicating that fact.

IMPORTANT NOTE: The editor will edit existing files up to several Kbytes in size, but is not designed to enlarge them greatly. You can only add about 100 lines to the size of an existing file or initially create a file of 200 lines or so. If you must enlarge a file more than this, exit and save it, then reload it.

To exit the editor, press ESC. If the file has been changed, you will be asked if you want to save it. You may also choose to save the file under a new name.

Advanced Set-Up

Automatic Startup and Ending files

Host Master supports automatic sending of startup and shut-down commands from the HOSTBEG.TXT and HOSTEND.TXT files. These must be plain ASCII files with commands that will be understood by the TNC in Command mode.

Any commands in the file HOSTBEG.TXT will be executed at the beginning of the program, as soon as the link has been established with the TNC. For example:

CMSG ON
CTEXT I'm at the keys, so be with you soon.
MONTYPE ALL
MONMODE CONNECTED

would cause the connect message to be set on, (possibly changed from CMSG PBBS), the CTEXT message to be changed, then would set monitoring for all types of packets, and monitoring while connected. (Monitor commands are shown for the Data Engine.)

Similarly, the commands in HOSTEND.TXT are executed just before the program exits Host mode and can restore values to those needed for another terminal program, etc. Monitoring is automatically turned off by Host Master at the end of each run, to prevent data from accumulating in the TNC and causing problems the next time Host Master is run.

An example might be:

CTEXT I'm not at the keys, leave a message.
CMSG PBBS

This would set things up so that when you exit Host Master, further connections are routed to your PBBS, with the appropriate message for introduction.

Transmit Buffer Files

When used with a Kantronics All Mode (KAM) unit, Host Master supports not only packet but several HF modes of operation, each with its own characteristic procedures. For example, in RTTY it is usual to send a series of "RYRYRYRY" characters at the beginning of each transmission to help the other station tune for best reception. Most operators like to keep such handy aids in a transmit buffer so they can be sent immediately. But it would be wasteful to devote one of your buffers to an "RYRYRYRY" message which is used only in one mode. So Host Master allows you to have 10 different transmit buffers for each major mode of operation.

Transmit buffers are stored in ASCII text files. The names of these files consist of two parts, the name and the extension. The name will always be the word BUFFER followed by a number from 1 to 10. The extension will either be nothing (no extension) or one of the following: CW, RTT, ASC, AMT, PAC. Each extension corresponds to the mode in which that file is active.

For example: If you are in RTTY mode and press Ctrl-F2, the file with the name "BUFFER2.RTT" will be sent. If no file by that name can be found, a file with just the name "BUFFER2" will be searched for and if found, it will be sent. If neither file is found an error message will be displayed. This method allows you to either specify what you want sent for each buffer in each mode, or to create a default buffer file which will be used in all modes.

The file extensions correspond to the modes as follows:

.AMT = AMTOR

.ASC = ASCII

.CW = CW

.RTT = RTTY

.PAC = PACKET

NONE = DEFAULT, used if no file for current mode exists.

These files should be created in the directory you have set during setup for your transmit buffer files. If you use the Edit Buffers selection from the File/Edit menu to create them, they will be placed in the correct directory automatically.

Secondary Configuration Files

If you have two TNCs on different serial ports it would be troublesome to have to re-configure the program each time you wanted to use the other TNC. Instead, you can have two or more different configuration files, one for each TNC, serial port, or even color scheme you want to be able to access quickly.

To create a new configuration file simply rename the HOST.CFG file created by Host Master or Hostset and rename it to any other filename you want. Then specify the new filename on the command line immediately after Host.

For Example:

Let's say you have a Data Engine and a KAM on different serial ports. Configure the Host Master for the port, etc., that the Data Engine uses. Save the configuration file and exit. Now rename "HOST.CFG" to be "ENGINE" (or any other filename you want). Next, start over with Hostset or Host and re-configure for your KAM serial port, colors, etc. Save and exit, then rename this new "HOST.CFG" file to "KAM".

Now, whenever you want to use Host Master with your Data Engine, at the command prompt simply type "HOST ENGINE" and press enter. Host Master will load the "ENGINE" file as if it was "HOST.CFG" and everything will be set for your Data Engine. Similarly if you type "HOST KAM" at the command prompt, the Host Master will load the "KAM" file as if it were "HOST.CFG" and you will be set up for your KAM. This powerful feature lets you quickly access virtually unlimited configurations of ports, screen colors, etc.

Another example:

Host Master supports not only the standard 25 line text mode, but the 43 line mode available with EGA/VGA adapters, and the 50 line mode available with VGA adapters. To use these modes you must specify them when you run the HOSTSET program. As explained above if you want to use several screen modes, simply create new configuration files and name them as you wish. You could have a file called "43ENGINE" and one called "50KAM" to start in 43 line mode with port, etc., set for a Data Engine, or 50 line mode setup for a KAM.

Character Translation

Full character translation is supported in Host Master. Any ASCII character may be substituted for any another. Translation may be separately specified for transmit, receive, and commands.

Transmit Translations

To cause characters to be translated on transmit (from what you type, out to the TNC) create a standard ASCII text file named HOST.XLT, either using the Host Master editor, or any ASCII text editor. This file must contain lines of data in the following format:

<decimal ASCII code typed>=<decimal ASCII code sent>
<decimal ASCII code typed>=<decimal ASCII code sent>
etc...

where <decimal ASCII code typed> is any decimal ASCII code which, when typed or sent from a file, you want translated into <decimal ASCII code sent>.

An example file might look like this:

```
91=132
93=139
60=154
```

This would cause an ASCII 132 "ä" to be transmitted whenever an ASCII 91 "[" was typed or sent from a file. Similarly an ASCII 139 would be sent when an ASCII 93 was typed or sent from a file. If a character is specified on more than one line, the last definition in the file will prevail.

When the HOST.XLT file is present, you will see a message each time the Host Master starts. To activate transmit translation select it from the Term menu. This is a toggle, select it once to turn it on, again to turn it off.

Receive Translations

The format for Receive translation is exactly the same, except the file must be named HOST.XLR.

Format:

<decimal ASCII code received>=<decimal ASCII code displayed>

Example:

```
132=91
139=27
154=30
```

This file would cause any ASCII 132 "ä" which was received, to be displayed, printed or saved to disk as ASCII 91 "[".

You must turn on Recv Translate from the Term menu before it will take effect.

Command Translations

The Term menu has a third option for Cmds Translation. This option, when active, translates commands sent to the TNC from the Command channel according to the Transmit Translation file. This is useful if you want to set non-standard characters in your CTEXT

or PTEXT via the HOSTBEG.TXT or HOSTEND.TXT files.

CAUTION!: If Command Translation is active and you have changed a character that the TNC needs to understand the command, the command will not be processed. You should use extreme care and avoid translating ordinary letters and numbers when this option is active.

Translation ON or OFF for Transmit, Receive and Command data is saved from session to session in the configuration file.

Troubleshooting

Bad Computer to TNC Link

Several things can prevent a good computer to TNC link. Your TNC might be connected to a serial port other than the one configured, or it might already be on at a different baud rate than the one you selected in Hostset. Host Master will detect a problem and prompt you to take action.

If you have previously used a terminal program other than Host Master with the TNC, it may be set at the wrong baud rate. If you have not PERMed the rate, simply turn the TNC off then on to activate AUTOBAUD mode. This is the easiest way to get the TNC and Host Master talking to each other! If you are using battery backup or SmartWatch, the TNC will remember the baud rate. From your other terminal program change the baud rate, or use the RESTORE D command to return the unit to factory defaults, or do a hard reset of the TNC.

If you have permed a baud rate and you know what it is, you can re-configure Host Master to the correct rate. But you should later reconfigure to use the highest rate which your computer and the TNC will reliably support.

IMPORTANT NOTE! Baud selections of 19,200 and higher are probably more than your computer and serial port can handle! Normally 2400 or 4800 will work with most 8088's. An 80286 or 80386 at 12 or 16 MHz will usually handle 9600 and possibly 19,200 with no problem. At extremely high rates a special high-performance buffered UART may be required, together with a fast computer.

TSR (Terminate and Stay Resident) programs can have an unpredictable effect on Host Master. Because high serial port data rates are very demanding on the CPU, anything which causes a delay during interrupt processing could potentially cause lost characters.

If you are losing characters and have the Host Master real-time clock turned on, try turning it off. Keep trying lower baud rates until the losses stop. Of course the lower the baud rate, the slower the program will appear to respond since packets are not displayed until they are complete.

If you get the message saying that the TNC has sent garbled data for no apparent reason, it is very likely your rate is set too high. The very high baud selections are provided for upward compatibility with future hardware.

If the TNC is connected to a serial port other than 1, you will have to re-configure the Host Master to the new port. You can do this with the Hostset program or, choose the CONT option from the menu and continue into the Host Master program. Select the Config menu and then choose Serial Port Config. When prompted, select the baud and port number. Then EXIT the program, saving the configuration when asked if you want to. Then run the program again to activate the new port/speed.

If you have tried every combination of port and baud you can think of and it still doesn't work:

If this is the very first time you have ever used the TNC, there may be a problem with your cable connections. Host Master will always be able to configure to a brand new unit in AUTOBAUD mode if the connection is good and the port number is correct.

Host Master uses hardware flow control. You must have the TXD, RXD, SG, RTS and CTS lines wired in your cable. (See your TNC manual for instructions on making the cable.)

If this is not the first time you have used the TNC, refer to the TNC manual for how to reset the TNC to its factory default settings. Then re-start everything from the beginning.

Serial Port 3 or 4 Doesn't Work

If you are using port 3 or 4 your BIOS may not be setting up the port interrupt information for those ports. Try using port 1 or 2. If that works, contact the maker of your serial port or computer vendor. Host Master supports COM3 using address 03E8 interrupt 4 and COM4 using address 02E8 interrupt 3.

I Can't Monitor Packets

From the Command channel, check the monitor commands in the TNC. The MONITOR command must be ON. To monitor while connected, you must also set MONMODE CONNECTED in the Data Engine. For the KAM or KPC-series TNCs, MCON ON must be set.

My Data Engine's Second Port Doesn't Work

You must use the PORT command to tell the Data Engine that you want to use both ports. See the Data Engine manual.

My Transmit Echo line doesn't work

You must turn XMITECHO ON from the Command channel in order for this feature to work. This feature is available only on the KAM with ALL MODE set in Hostset.

Please, ONLY AFTER YOU HAVE TRIED EVERYTHING ELSE!

Call Kantronics for help, please have the following information ready:

Your program serial number and version number. Your type of TNC and its firmware version number. A printout of your CONFIG.SYS and AUTOEXEC.BAT files. Type of computer, processor, speed, disk drives, and ports.

Is the problem repeatable? If so EXACTLY what do you have to do, step by step to cause the problem?

Do you have any resident programs loaded? Does the problem occur if they are not loaded?

Are there any error messages generated, if so EXACTLY what are they?

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Pacterm Manual

To Start Pacterm

It is best to leave your TNC off until you have Pacterm setup and in the terminal mode. Having the TNC on early will cause data to be backed up between the computer and TNC. Then when Pacterm is put in the terminal mode, what is in the TNC will dump rapidly to the screen.

Have your computer logged onto the drive and directory where you have stored the Pacterm files and type PACTERM at the DOS prompt. When Pacterm starts, its help menu is displayed on the screen. This menu can be accessed at anytime by pressing the F1 key.

Setup

It is important that you first set the communication port and baud rate. Pacterm must know what port to use to talk to the TNC, and how fast to talk.

F7 increment communication port number

Pressing F7 causes Pacterm to toggle between the communication ports: com1 and com2. The port that is in use is shown near the bottom of the screen. COM1 is default and must be reset, if necessary, each time you begin the program.

F8 increment baud rate

Pressing F8 will cause Pacterm to step through the available baud rates. The default is 1200 baud and must be reset, if necessary, each time you begin the program. Available rates are: 300, 600, 1200, 2400, 4800, and 9600.

This rate corresponds to the ABAUD command in the TNC. Until the ABAUD rate is set and PERMed, the TNC will run an autobaud routine to determine how fast the computer is talking. (The battery backup option, for the TNC, will also store the ABAUD rate, after the ABAUD command is set.)

F3 toggle KPC / UTU-XT selection

Pressing F3 toggles between the KPC (packet) Help Menu and the UTU-XT (other modes) Help Menu. The UTU-XT selection adds four more commands for the additional operating modes of the UTU-XT and the KAM. The term TNC is used in this manual to refer to all units. Some TNC commands referred to may not be present in the UTU-XT.

F3, F7, and F8 work only while the Help Menu is on the screen. Other commands work only while in the Terminal Mode.

Exiting Pacterm

Pressing F10 will exit to DOS from any screen. The TNC power must remain on when exiting this way because commands are being sent to the TNC. (KPC menu – Ctrl-C Ctrl-C Ctrl-C d; UTU-XT menu – Ctrl-C X.)

The Escape key or a Ctrl-C will also exit to DOS from the Help Menu.

Terminal Mode

PRESS BACKSPACE TO CONTINUE.

Pressing the backspace key will put Pacterm in the terminal mode. This is the mode used to talk to the TNC. The top part of the screen will display data received from the TNC. Data typed on the keyboard will display between the two lines. The bottom line is the status bar.

If you are just starting, now is the time to turn on the TNC. At anytime the F1 key can be pressed to display the help menu. The backspace key will return you to terminal mode.

Autobaud Routine

If the ABAUD command in the TNC has not been set, the TNC will run an autobaud routine to determine the baud rate of the computer. The TNC will send the same message over and over again at different baud rates. This will look like a lot of garbage until the baud rate of the TNC matches the baud rate set in Pacterm. Then the screen will display:

PRESS (*) TO SET BAUD RATE

At this time you should press the asterisk, *. Then the TNC will send its sign-on message,

ask you for your callsign, and then the cmd: prompt will appear. See your TNC Operations Manual for more information. The UTU-XT will not ask you for your callsign.

TNC parameters

The following parameters need to be set for Pacterm to work properly. To set them, type as shown, with each line ending with the return key. (Do not type what is in parentheses.) See your TNC manual for a description of the commands.

```
8 bitconv on
command $03     (Control-C)
echo off
filter off
flow off
parity 4        (none)
xflow off       (hardware flow control)
xmitecho on     (KAM or UTU-XT)
```

F5 toggle type ahead / transmit mode

Pressing F5 causes Pacterm to toggle between an immediate transmit mode (to TNC), or a type ahead buffer. You will see either ONLIN or OFLIN in the status bar.

When ONLIN appears, everything you type will go immediately to the TNC.

When OFLIN appears you are in the type ahead mode – what you type will be stored in the computer's memory; it will be sent to the TNC when you press another F5, and Pacterm will return to ONLIN at this time. F5 does not add a carriage return to the data. In packet you must remember to end what you have to say with the return key, or the TNC will not transmit it.

Alt-R can also be used to go OFLIN to the type ahead buffer. And Alt-T can be used to go ONLIN. Alt-T sends a return at the end of the data. Alt-R and Alt-T function differently when F3 has been used to choose the UTU-XT selection (covered later).

The type ahead buffer can hold up to 1,000 characters.

F9 exit to cmd: mode

Pressing F9 will return the TNC to command mode. When using the KPC menu this will send three Ctrl-Cs to the TNC. When using the UTU-XT menu Ctrl-C X is sent to the TNC. The screen will be cleared (except for the two lines and status bar), and the cmd: prompt will appear (unless you were already in command mode). The status bar is reset to its default and many software variables are reset.

The COMMAND parameter in the TNC must be set to $03 for this to work. You may also enter command mode by issuing a Ctrl-C or Ctrl-C X, as appropriate. This will not clear the screen or reset anything.

Flow Control

Pacterm uses hardware flow control. RTS and CTS status are shown on the right side of the status bar. RTS indicates the TNC is allowed to talk to the computer. CTS indicates the computer is allowed to talk to the TNC.

F6 toggle RTS

Pressing F6 will toggle Request To Send (RTS). By default, XON and RTS show in the status bar. This indicates that data is allowed to flow from the TNC to the computer. Pressing F6 will turn RTS off and XON will change to XOFF. This will stop the flow of data from the TNC to the computer. Pressing F6 again, will restart the flow of data from the TNC.

Saving Data to Disk

Alt-B buffer control

The Alt-B command toggles the buffer on and off. When the buffer is on, data that appears in the receive section (top) of the screen will be saved in your computer's memory. BUFF appears in the status bar when the buffer is on. Using F9 will also turn the buffer off. When using the UTU-XT menu, changing speeds in RTTY, ASCII, or CW mode will also turn the buffer off.

The size of the buffer depends on the amount of memory in your computer.

Alt-C clear holding buffer

Pressing Alt-C will erase all information stored in the buffer.

F2 save holding buffer to file

Pressing F2 brings up a request to enter file name. After entering the file name, press return. The file will be saved and Pacterm will return to terminal mode. Pacterm supports drive designators when saving files, but does not support directories.

If the information is stored with a normal file name, carriage return/line feeds will be added as needed. To save data exactly as received use a .bin suffix following the file name (binary file).

Sending a File from Disk

Alt-F file transmit

Pressing Alt-F will display a · ($FA) on the screen. Then type the file name followed by another Alt-F. The file name must be exact. Do not add spaces between the Alt-Fs and the file name. Pacterm supports drive designators as part of the file name, but does not support directories.

If you are in a non-packet mode, using the UTU-XT menu, you must also do an Alt-T to tell the UTU-XT or KAM to actually transmit the file.

Sending/Receiving Program Files

Before a program can be transmitted it must be changed from a binary file to a text file. This process is done with the Unload program.

The Unload program actually converts the program to be sent to a hex file that can be transmitted. After the program is received it will need to be converted back to binary code. This is done with the Load program. At the DOS prompt, enter the command UNLOAD followed by the file name of the program to be converted. The Unload program will convert the program to hex code. The Unload program requires that the program begin at 100 hex. Once the conversion is complete a new file will exist in the directory. It will be listed as the file name with a .HEX extension. This file can be transmitted using the Alt-F command.

If you receive a program sent in hex code and want to convert it to binary use the LOAD program. Follow the same procedures as the Unload program. The LOAD program creates a binary file with a .COM extension.

Printer

The Alt-P command toggles the printer on and off. When the printer is on, data that appears in the receive section (top) of the screen will also be sent to your printer. PRINT appears in the status bar when the printer is on. Using F9 will also turn the printer off.

Extra Functions added with the UTU-XT menu

The UTU-XT menu will also work with the non-packet modes of the KAM. The term TNC will be used to refer to both these units.

Alt-T transmit – exit type ahead

Alt-T sends a Ctrl-C T Ctrl-M to the TNC. This causes the TNC to key the radio and transmit the data in the TNC's buffer. In the status bar RECV changes to XMIT. If F5 had been used to put Pacterm in the type ahead mode (OFLIN), it will change to ONLIN.

Alt-R receive – return to type ahead

Alt-R sends a Ctrl-C R to the TNC. This will immediately return the TNC to the receive mode, even if there is still data in its buffer.

Alt-E return to receive

Alt-E sends a $1D to the TNC and the graphics character <-> to the screen. When the TNC echoes this character to Pacterm, Pacterm will send the TNC a Ctrl-C R and return to receive. This would be used instead of Alt-R to allow Pacterm to determine when the buffer is empty, and then return to receive.

Note that the transmit echo (XMITECHO) command should be turned on and the ECHO command should be turned off so that the return to receive character can be recognized at the end of an over the air transmission instead of as an echo of the RS-232 data transmitted. The FILTER command should be OFF to allow $1D to be monitored.

Alt-H shift tone pair frequencies

Alt-H sends a Ctrl-C S to the TNC. This command changes shifts in RTTY, ASCII, and AMTOR.

Alt-I invert received signal (rtty/ascii)

Alt-I sends a Ctrl-C I to the TNC. This command inverts the received signal in RTTY and ASCII modes.

Alt-Sn speed change

Alt-Sn sends a Ctrl-Cn to the TNC where n is a number between 0 and 9. This command lets you change the speed at which you will transmit in CW, RTTY and ASCII. In CW Alt-Sn will increment transmit speed by 5*n. In RTTY and ASCII the TNC will cycle through its programmed speeds.

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Kantronics warrants that this software will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days from the date of purchase. Any implied warranties on this software are limited to 90 days. Some states do not allow limitations on duration of an implied warranty, so the above limitation may not apply to you.

Kantronics entire liability and your exclusive remedy shall be, at Kantronics option, either a) return of the price paid or b) repair or replacement of the software that does not meet Kantronics warranty and which is returned to Kantronics with a copy of your receipt.

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Return/Repair Procedures

Consult the limited warranty policy in this manual for the service provisions offered by Kantronics at no charge. This warranty is considered to be in force only when the customer has submitted his completed warranty registration within 10 days of purchase and when the stipulations of the warranty have been met. Violations of warranty clauses will automatically void the warranty and service or repairs will be charged to the owner.

Service outside the warranty will be charged at the cost of parts, labor, and return shipping. Repaired equipment will be returned via UPS C.O.D. C.O.D. charges can be avoided by including a VISA or MasterCard number with the return, to which repair can be charged when it is returned for service. When service or repairs appear necessary, it may be wise to call or write Kantronics to determine if the problem can be solved without returning the disk. When calling report the product name and ask for the Amateur Radio Service Department. The Service department hours are 9 am - noon and 2 pm - 5 pm central time phone 913-842-4476, Monday through Friday. When writing include a clear description of the problem.

Returns to the factory for refund or exchange are strictly regulated. Any return for refund or exchange must be approved by the Service Department.